

### Data Entry Guide for *Xyleborus* and *Xylotrechus* Pests at the Genus and Species Level

Negative data **should not be reported at the genus or species level for these genera.** Due to the differences in hosts and signs of damage between species of these two genera, visual inspection is not sufficient to report negative data at the genus level. Information on the genus *Xyleborus* and five, high-impact *Xylotrechus* species are listed in the 2013 version of the Exotic Wood Borer/ Bark Beetle National Survey Guidelines for reference purposes only. Currently, these five *Xylotrechus* species do not have effective trap and lure combinations. Research on traps and lures for these species will be conducted as funding permits. In the meantime, negative data should not be reported on these species. Any *Xyleborus* or *Xylotrechus* specimens obtained in traps or by visual survey for other targets should be submitted for identification. Native species may be present. **All positives must be identified to species level.**

- Negative data may be reported for *Xyleborus glabratus* from manuka oil lures in multi-funnel traps.

If these requirements cannot be met, then no data entry should occur.

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### Data Entry Guide for Nematode Pests at the Genus and Species Level

Negative data at the species level should only be entered if no individuals of that species are found in the sample, and that the sampling method used will capture individuals of that species if they are present in the environment from which that sample was taken.

Similarly, negative data at the genus level should only be entered if no individuals of that genus are found in the sample, and that the sampling method used will capture individuals of that genus if they are present in the environment from which that sample was taken.

All positives must be identified to species level; no positive entries at the genus level are allowed.

If these requirements cannot be met, then no data entry should occur.

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### Data Entry Guide for Mollusk Pests at the Family, Genus, and Species Level

#### Veronicellidae

In April 2013, the family Veronicellidae, a target on the 2013 and 2014 AHP Prioritized Pest Lists, was broken down into six genera of concern. When conducting a general mollusk survey, if samples are negative for Veronicellidae, then negative data may be reported for each of these six genera: *Belocaulus* (*Angustipes*), *Colosius*, *Laevicaulis*, *Sarasinula*, *Semperula*, and *Veronicella*. All positives must be reported at the species level.

***Cernuella*, *Cochlicella*, and *Monacha***

Negative data for the genera *Cernuella*, *Cochlicella*, and *Monacha* can be entered at the genus level if no individuals of that genus are found in the sample and if the sampling method used will capture individuals of that genus if they are present in the environment from which that sample was taken. All species of these genera are exotic and not native to the U.S. All positives, regardless of genus, must be reported at the species level; no positive entries at the genus level are allowed.

**Target Species**

For states including mollusk species within a commodity or bundled survey, negative data at the species level may be entered as long as the sampling method used will capture individuals of that species **and** if the species is likely to be present in the environment from which that sample was taken (i.e., the target species would likely be associated with the commodity or environment being surveyed.)

For instance, states conducting soybean and/or small grains surveys and targeting *Cernuella virgata* may enter negative data at the species level if no individuals of that species are found in the sample. *Cernuella virgata* is known for crawling onto plant heads and stalks which contaminates crops and clogs machinery. It is also a serious contaminant to wheat in countries where it is established. Therefore, *C. virgata* is more likely to be found in small grains or soybeans due to contaminated machinery; *C. virgata* is a threat to these industries; and it makes sense to survey for this target in these crops.

Please keep in mind that in general, mollusks are not host-specific and they are best surveyed for along a potential pathway of introduction.

All positive data must be identified to species; no positive entries at the family or genus level are allowed.

If these requirements cannot be met, then no data entry should occur.

**Data Entry Guide for Phytoplasma Pests at the Species Level**

Phytoplasmas are classified using two different systems:

1. The ‘*Candidatus* Phytoplasma’ system is a provisional taxonomy (mainly based on molecular data), principally using % nucleotide sequence identity of 16S rRNA genes as the basis for separating distinct ‘*Candidatus* Phytoplasma’ species.
2. In contrast, the 16Sr ribosomal group and subgroup system is based on Restriction Fragment Length Polymorphism (RFLP) analysis, of the 16S ribosomal RNA gene (16S rDNA). In this latter system, each phytoplasma is placed in a 16S rDNA RFLP group and subgroup based on similarities and differences in the RFLP patterns.

A formal ‘*Candidatus Phytoplasma*’ name may not be available for all phytoplasmas, particularly for newly described phytoplasmas. Table 1 indicates the current classification information for the phytoplasmas of national concern to the CAPS program.

Negative data at the ‘*Candidatus Phytoplasma*’ species level should only be entered if no individuals of that species are found in the sample. For any phytoplasma that has yet to be given a formal ‘*Candidatus Phytoplasma*’ name, negative data should be entered at the 16Sr ribosomal subgroup level until a formal species name is available.

All positives must be identified to species level or further classified to subgroup or strain level; no positive entries at the genus level are allowed. Positive data for ‘*Candidatus Phytoplasma palmae*’, however, will need to occur at the subgroup level, because there are multiple subgroups within this species and several of the ‘*Candidatus Phytoplasma palmae*’ subgroups are also known to have a limited distribution within the United States.

If these requirements cannot be met, then no data entry should occur.

**Table 1: Phytoplasma National Survey Targets by Scientific Name and 16Sr Group and Subgroup**

Validly Published Scientific Name	Informally Proposed Scientific Name	Ribosomal Group	Subgroup	Common Name
‘ <i>Candidatus Phytoplasma australense</i> ’		Group 16SrXII	subgroup B (16SrXII-B)	Australian grapevine yellows phytoplasma
‘ <i>Candidatus Phytoplasma mali</i> ’		Group 16SrX	subgroup A (16SrX-A)	Apple proliferation phytoplasma
‘ <i>Candidatus Phytoplasma pini</i> ’		16SrXXI	subgroup A (16SrXXI-A)	Pine witches’ broom phytoplasma
‘ <i>Candidatus Phytoplasma prunorum</i> ’		16SrX	subgroup F (16SrX-F)	European stone fruit yellows phytoplasma
	‘ <i>Candidatus Phytoplasma palmae</i> ’ and related strains/subgroups	16SrIV	Subgroups A through F (16SrIV-A, etc.)	Palm lethal yellowing phytoplasma and others
	‘ <i>Candidatus Phytoplasma vitis</i> ’	Group 16SrV	subgroups C and D (16SrV-C and 16SrV-D)	Flavescence dorée phytoplasma

Note that different authors use somewhat different criteria in published literature for designating a phytoplasma strain as a strain of a '*Candidatus Phytoplasma*' species or as a '*Candidatus Phytoplasma*' species-related strain. The former implies that the strain in question belongs to the species; the latter implies that the strain in question may possibly belong to a closely related, but separate, species. For example, a given strain might be designated as a strain of '*Candidatus Phytoplasma pruni*'. Whereas, a different strain might be designated as a '*Candidatus Phytoplasma pruni*'-related strain.